Docket No.: HOI-25902/16
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Utility Application of:
Christian Caspersen

Application No.: 09/806,457 Confirmation No.: 1421

Filed: June 14, 2001 Art Unit: 2884

For: APPARATUS FOR DETERMINING THE POSITION OF AN OBJECT Examiner: Shun K. Lee

APPEAL BRIEF

MS Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

I. REAL PARTY IN INTEREST

The real party in interest is the inventor, Christian Caspersen, having his principal residence at Rormosen 306, DK-2990 Niva, Denmark.

II. RELATED APPEALS AND INTERFERENCES

There are no other related appeals or interferences.

III. STATUS OF CLAIMS

Claims 1, 7, 9, 11-12, 15-16, 23-24, 27, 29, 36-37, 44 and 47-51 are currently pending in the application. All of the pending claims stand finally rejected and are under appeal.

IV. STATUS OF AMENDMENTS

Appellant has not attempted to make any amendments to the claims after final rejection.

V. SUMMARY OF CLAIMED SUBJECT MATTER

The invention of independent claim 1 provides an apparatus for identifying a position of marked objects having unknown positions and detecting a property of the marked objects contained in a specimen, wherein the marked objects are marked with a fluorescent stain, the apparatus having: a frame (specification, page 3, line 14); a member 17 positioned on the frame that has a surface that is adapted to receive and hold a specimen 14 (specification, page 15, lines 25-27; Figure 1); at least a first light source for emitting at least a first light beam 12 towards the specimen 14 held by the member 17 (specification, page 3, lines 6-8; page 16, lines 11-12; Figure 1), wherein the first light beam 12 is adapted to provide a light spot having a diameter between 20-150 μm on the specimen 14 (specification, page 7, lines 21-23); at least a detector 1 for detecting fluorescent light emitted from marked objects upon interaction with the first light beam 12 (specification, page 4, lines 15-19; page 8, lines 13-25), the first light source and the detector 1 being arranged so that a part of a light beam path 12 from the first light source to the specimen 14 is co-axial with a part of the light emitted from the marked objects (specification, page 17, lines 7-10; Figure 1); at least one beam-splitter 6 being arranged to reflect the first light beam 12 towards the specimen 14 and filter light emitted from the specimen 14 (specification, page 17, lines 9-10; Figure 1), thereby allowing fluorescent light from the marked objects to pass through the beam-splitter to the detector (specification, page 17, lines 9-12; Figure 1); scanning means 18 for scanning the entire surface of the member 17 in relation to the detector 1 along a non-linear curve (specification, page 16, lines 13-14), wherein the scanning means 18 comprises means for rotating the member 17 (specification, page 16, lines 18-19) and means for displacing the member 17 along a radius of the rotation of the member 17 (specification, page 16, lines 31-34), so as to identify the position of the marked objects in the entire specimen (specification,

page 3, line 32 – page 4, line 2) and detect the property of the marked objects (specification, page 15, lines 6-15), the means for rotating and the means for displacing being directly connected to the member 17 (specification, page 16, lines 17-18), the member being rotatable and displaceable along a radius of the rotation of the member (specification, page 16, lines 31-33); scanning control means for controlling the scanning means for scanning the specimen along the non-linear curve (specification, page 3, lines 22-24); storage means for storing detector signals relating to the marked objects provided by the detector and corresponding position signals provided by the scanning control means (specification, page 3, lines 26-30); means for retrieving the position signals stored in the storage means (specification, page 14, lines 23-28); and a microscope for viewing images of the marked objects (specification, page 14, lines 27-28); wherein the scanning control means use the retrieved position signals to place the microscope at the position of the marked objects to allow performing a detailed examination of the marked objects (specification, page 14, lines 22-30).

The invention of independent claim 29 provides a method of identifying a position of a fluorescently marked object having an unknown position and detecting a property of the object contained in a specimen, wherein the object is a biological cell or a microorganism, the method having the steps of: positioning the specimen 14 on a member 17 having a surface that is adapted to receive and hold the specimen 14 (specification, page 15, lines 25-27; Figure 1); emitting at least a first light beam 12 from a first light source towards the specimen 14 held by the member 17 (specification, page 3, lines 6-8; page 16, lines 11-12), wherein the first light beam 12 is adapted to provide a light spot having a diameter between 20-150 μm on the specimen 14 (specification, page 7, lines 21-23) and wherein the first light beam 12 is reflected by a beam-splitter 6 towards the specimen 14 (specification, page 17, lines 9-10); scanning the

entire surface of the member 17 in relation to a detector 1 along a non-linear curve (specification, page 16, lines 13-14), by rotating the member 17 holding the specimen 12 and displacing the member 17 along a radius of the rotation of the member 17 (specification, page 16, lines 31-34), the member 17 being rotatable and displaceable along a radius of the rotation of the member 17 (specification, page 16, lines 31-33); arranging the light source and the detector 1 so that a part of a light beam path 12 from the first light source to the specimen 14 is co-axial with a part of a light emitted from the object 15 (specification, page 17, lines 7-10; Figure 1); filtering through the beam-splitter 6 light emitted from the specimen 14 (specification, page 17, lines 9-10), passing fluorescent light from the marked objects through the beam-splitter 6 towards the detector 1 (specification, page 17, lines 9-12; Figure 1); detecting the fluorescent light emitted from the object (specification, page 3, lines 11-12), thereby identifying the position of the object (specification, page 3, line 32 – page 4, line 2) and detecting the property of the object during scanning of the entire specimen (specification, page 15, lines 6-15); storing detector signals relating to the object provided by the detector and corresponding position signals provided by the scanning control means (specification, page 3, lines 26-30); retrieving the position signals stored in the storage means (specification, page 14, lines 23-28); placing a microscope at the position of the object using the retrieved position signals to allow performing a detailed examination of the object (specification, page 14, lines 22-30); and optically inspecting the object by viewing an image of the object via the microscope by a user (specification, page 14, lines 28-30).

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

A. Claims 1, 7, 9, 11, 12, 23, 24, 27 and 48 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Malin et al. (US 5,377,002) in view of Hamashima et al. (US 4,744,663).

B. Claims 15 and 16 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Malin et al. (US 5,377,002) in view of Hamashima et al. (US 4,744,663) as applied to claim 1 and further in view of Worster et al. (US 5,479,252).

C. Claims 29, 36, 37, 47 and 49-51 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Malin et al. (US 5,377,002) in view of Hamashima et al. (US 4,744,663) and Dixon et al. (US 5,381,224).

D. Claim 44 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Malin et al. (US 5,377,002) in view of Hamashima et al. (US 4,744,663) as applied to claim 1 and further in view of Raz et al. (US 6,049,421).

VII. ARGUMENT

With respect to the following arguments, Appellant hereby incorporates by reference comments made of record in the pre-appeal brief request statement made of record December 21, 2009.

The argument presented on appeal includes:

1. The Cited Prior Art Combinations Fail to Satisfy a *Prima Facie* Case of Obviousness under 35 U.S.C. §103(a) as All Elements of the Claims Are Neither Taught nor Suggested.

A. The prior art combination of Malin et al. in view of Hamashima et al. fails to teach or suggest the claimed element "[a] first light beam is adapted to provide a light spot having a diameter between 20-150 μm on the specimen".

Requirements for a *Prima Facie* Case of Obviousness

A claimed invention is nonobvious unless "the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains." 35 U.S.C. §103 (2000).

The Supreme Court in *KSR Int'l Co. v. Teleflex, Inc.*, 127 S. Ct. 1727 (2007) reaffirmed that *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966) remains the controlling precedent for a determination of obviousness under 35 U.S.C. §103(a). Under *Graham*, to establish a *prima facie* case of obviousness an Examiner must analyze:

(1) the scope and content of the prior art;

(2) the differences between the claimed invention and the prior art; and

(3) the level of ordinary skill in the pertinent art.

Graham, 383 U.S. at 17–18, 148 USPQ at 467.

The Court of Appeals for the Federal Circuit (CAFC) has interpreted *KSR* to require that any *prima facie* case of obviousness includes an explicit showing of motivation to combine or modify a prior art reference to obtain a claimed invention. (See *Ball Aerosol and Specialty Container, Inc. v. Limited Brands, Inc.*, 2008-1333, 14 (Fed. Cir. 2009)). In *Ortho-McNeil Pharmaceutical, Inc. v. Mylan Laboratories, Inc.*, the CAFC reaffirmed the teaching, suggestion, and motivation test "flexibly applied" so as to require that any *prima facie* case of obviousness must be accompanied by an explicit showing where the relied on prior art provided the requisite teaching, suggestion, or motivation (TSM). 520 F.3d 1358, 1364-65 (Fed. Cir. 2008). The flexible nature of the test allows for a teaching, suggestion, or motivation to arise from knowledge in the art or from a standard desire to improve on prior inventions.

The BPAI also recognized that *KSR* "held that the TSM test must be applied flexibly, and take into account a number of factors 'in order to determine whether there was an apparent reason to combine the known elements in the fashion claimed.'" *Ex parte Whalen II*, Appeal 2007-4423, July 23, 2008, page 15 (citing *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1741 (2007)). Further, "it can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the [prior art] elements in the way the claimed new invention does . . . To facilitate review, this analysis should be made explicit." *Id.*

The standard set down in *KSR* is fully in line with historical precedent. As supported by the CAFC, there must be an express evidentiary showing of where the prior art provides motivation to combine all elements of the claims. It is a well established legal principle that to establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974).

Additionally, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify or combine reference teachings. *In re Rouffet*, 149 F.3d 1350, 1357, 47 USPQ2d 1453, 1457-58 (Fed. Cir. 1998). This suggestion or motivation must be made explicit.

In light of the tests outlined in *KSR*, the form and substance of rejections under 35 U.S.C. §103(a) are currently captured and governed by guidelines articulated in the Federal Register, 2007, Vol. 72, No. 195, 56525-56534. These guidelines require a factual inquiry, resolution of ordinary skill in the art to which the invention pertains, and an explicit recitation of the rationale for the rejection as selected from among seven possible bases (identified in the Federal Register with letters A-G). These rationales are reproduced below.

> (A) Combining prior art elements according to known methods to yield predictable results;
>
> (B) Simple substitution of one known element for another to obtain predictable results;
>
> (C) Use of known technique to improve similar devices (methods, or products) in the same way;
>
> (D) Applying a known technique to a known device (method, or product) ready for improvement to yield predictable results;
>
> (E) ''Obvious to try''—choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success;
>
> (F) Known work in one field of endeavor may prompt variations of it for use in either the same field or a different one based on design incentives or other market forces if the variations would have been predictable to one of ordinary skill in the art;
>
> (G) Some teaching, suggestion, or motivation in the prior art that would have led one of ordinary skill to modify the prior art reference or to combine prior art reference teachings to arrive at the claimed invention.

(Federal Register, Vol. 72, No. 195, 57529).

Appellant's Argument

With respect to independent claim 1, the Examiner concedes that Malin et al. lacks "an explicit description that the light spot diameter is between 20-150 μm." (Office Action mailed on 09/22/2009, hereafter Paper No. 20090922, pp. 6-7) In addition, the Examiner states that "a light spot diameter of >1 μm (e.g., 50 μm) is *taught or suggested* by Malin et al. since the diameter of the light spot is larger than LPDs having diameters in units of micrometers (e.g., 1 μm)." (Paper No. 20090922, p. 7, emphasis added)

Although not explicitly stated, this explanation by the Examiner suggests that the rationale for obviousness corresponds to rationale (G) of the *KSR* obviousness examination

guidelines, namely that the Examiner has reached the conclusion that Malin et al. in view of Hamashima et al. provides some teaching, suggestion or motivation that would lead one of ordinary skill to modify these references in order to arrive at the claimed invention. The requirements for an obviousness rejection based on this rationale are produced below.

> To reject a claim based on this rationale, Office personnel must resolve the Graham factual inquiries. Office personnel must then articulate the following:
>
> (1) a finding that there was some teaching, suggestion, or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings;
>
> (2) a finding that there was reasonable expectation of success; *and*
>
> (3) whatever additional findings based on the Graham factual inquiries may be necessary, in view of the facts of the case under consideration, to explain a conclusion of obviousness.

Federal Register, Vol. 72, No. 195, 57534 (emphasis added).

In addition, the rationale to support a conclusion that the claim would have been obvious is that "a person of ordinary skill in the art would have been motivated to combine the prior art to achieve the claimed invention and that there would have been a reasonable expectation of success." *DyStar Textilfarben GmbH & Co. Deutschland KG v. C.H. Patrick Co.*, 464 F.3d 1356, 1360, 80 USPQ2d 1641, 1645 (Fed. Cir. 2006). If any of these findings cannot be made, then this rationale cannot be used to support a conclusion that the claim would have been obvious to one skilled in the art. *Id.*

However, Malin et al. is void of *any* teaching regarding a spot diameter between 20-150 μm. In particular, the Examiner notes that Malin et al. at column 12, lines 48-54 teaches:

> Apart from colour coding, the colour scales also indicate the numerical equivalents of the measured values that each colour represents. The unit of measurement used for LPDs is the μmLSE

> (=micron latex-sphere equivalent), where 1 μmLSE is the diffused-light amplitude produced by a latex sphere of 1 μm diameter.

The Examiner also states that Malin et al. at column 8, lines 30-33 teaches "LPDs are relatively small in relation to the light spot" and at column 2, lines 57-62 "[an] astigmatic light beam produced by the switchable lens system covers a larger area and thus permits a larger feed offset from one revolution to the next. On the other hand, the dot-shaped light beam is used with a small feed offset and makes possible high local resolution." From this limited text, the Examiner extrapolates that "a light spot diameter >1 μm (e.g., 50 μm), is taught or suggested . . ." (Paper No. 20090922, p. 7) In fact, a light spot diameter of >1 μm is void in Malin et al. and an example of 50 μm is submitted to be nothing more than, at best, a hindsight guess used to reject the claim.

In addition to the above, and as made clear in the present application, the claimed 20-150 μm spot diameter is critical as a trade-off between the best signal-to-noise ratio and the fastest scan. The best signal-to-noise ratio is obtained using as small a spot diameter as possible taking into account that fluorescent emissions are typically weak. On the other hand, the fastest scan is obtained using a large spot diameter. Malin et al. does not recognize this need and provides no suggestion or solution for this purpose. Furthermore, it is a staple of patent law that a parameter must first be recognized in the prior art as a result-effective variable before an examiner can argue that selection of a range is merely "optimization" (MPEP 2144.05.II.B). Such teaching is not found in the prior art and as such no motivation to select Appellant's claimed size range is provided except for improper hindsight.

In summary, number 1 of the (G) rationale has not been met. In addition, there has been no showing of a finding that there was reasonable expectation of success. Therefore, number 2

of rationale (G) has also not been met and Appellant respectfully submits that a *prima facie* case of obviousness under 35 U.S.C. §103(a) for independent claim 1, and all claims depending thereon, has not been shown. In addition, Appellant respectfully recites the same arguments regarding the element "the first light beam is adapted to provide a light spot having a diameter between 20-150μm on the specimen" in independent claim 29, and for this reason(s) submits that a *prima facie* case of obviousness has also not been shown for claim 29 and all claims depending thereon.

B. The prior art combination of Malin et al. in view of Hamashima et al. fails to teach or suggest the claimed element "at least one beam-splitter being arranged to reflect the first light beam towards the specimen and filter light emitted from the specimen".

Requirements for a *Prima Facie* Case of Obviousness

Comments regarding the requirements for a *prima facie* case of obviousness stated above are incorporated within this section in their entirety by reference.

Appellant's Argument

Regarding independent claim 1, the Examiner concedes that "Malin et al. lacks to filter through the beam-splitter fluorescent light emitted from the specimen, thereby allowing fluorescent light from fluorescently marked objects to pass through the beam-splitter to the detector." (Paper No. 20090922, page 6, last paragraph) However, the Examiner states that Hamashima et al. teaches a dichroic mirror (column 4, lines 47-59, reference numeral 24 in Figure 1) for simultaneously detecting three kinds of light information (that is, the scattered light from the edge of the pattern, the reflection from the pattern, and the fluorescence or phosphorescence from the pattern) so that by using these three kinds of light information and the scanning position information of the beam spot, the desired edge detection, pattern position

detection, and line width and dimension measurement of the different patterns are performed in a diversified manner. The Examiner further states that it would have been obvious to one having ordinary skill in the art at the time of the invention to provide a dichroic mirror as one of the at least one beam-splitter and other optical components in the apparatus of Malin et al. in order to obtain reflection, scattering, and fluorescence measurements at a desired resolution (for example, from a 50 micron light spot diameter) so as to determine defects and contamination in a diversified manner.

Based on these comments, Appellant respectfully submits that the Examiner's rationale for obviousness corresponds to rationale (A) of the *KSR* obviousness examination guidelines, namely that the Examiner has found all elements in the teaching of Malin et al. and Hamashima et al. that are combinable by known methods to yield predictable results. The requirements for an obviousness rejection based on this rationale are reproduced below.

> To reject a claim based on this rationale, Office personnel must resolve the Graham factual inquiries. Office personnel must then articulate the following:
>
> (1) a finding that the prior art included each element claimed, although not necessarily in a single prior art reference, with the only difference between the claimed invention and the prior art being the lack of actual combination of the elements in a single prior art reference;
>
> (2) a finding that one of ordinary skill in the art could have combined the elements as claimed by known methods, and that in combination, each element merely would have performed the same function as it did separately;
>
> (3) a finding that one of ordinary skill in the art would have recognized that the results of the combination were predictable; *and*
>
> (4) whatever additional findings based on the Graham factual inquiries may be necessary, in view of the facts of the case under consideration, to explain a conclusion of obviousness.

Federal Register, Vol. 72, No. 195, 57529 (emphasis added).

The United States Patent and Trademark Office goes on further to state that the rationale to support a conclusion that the claim would have been obvious is that all of the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded nothing more than predictable results to one of ordinary skill in the art at the time of the invention. *Id.* As such, the outstanding rejection relies on Hamashima et al. as teaching at least one beam-splitter being arranged to reflect the first light beam towards the specimen *and* filter light emitted from the specimen, thereby allowing fluorescent light from the marked objects to pass through the beam-splitter to the detector.

Hamashima et al. teaches a beam splitter in the form of a dichroic mirror 24 that reflects light from a light source and allows fluorescent light from a pattern to pass therethrough (column 4, lines 8-10 and lines 25-27). However, a combination of the dichroic mirror 24 of Hamashima et al. and the dark-field deflection system 8 of Malin et al. would result in an inoperable apparatus. Looking particularly at Figures 1 and 4a-4c of Malin et al., the dark-field deflection system 8 has a dark-field stop 61 that deflects light from a sample back to a light source 2 (column 6, lines 48-53) *and not* to photo detector 19. As such, the dark-field stop 61 *blocks light* reflected from the wafer W from passing to the photo detector 19 and thereby provides a dark-field system. In addition, Malin et al. further teaches that diffused and deflected light 14 is collected *under an angle* of the numerical aperture of an objective 9 and imaged in a confocal diaphragm 16. Stated differently, light does not pass through the dark-field stop 61 in Mailin et al. and substitution of the dark-field stop 61 with the dichroic mirror 24 would destroy the function of the dark-field deflection system 8.

Further support for such a combination being inoperable has been provided by the affidavit submitted under 37 CFR 1.132 in which Professor Buchhave, a professor in physics and an expert in the field of optics, and not a co-inventor of the instant application, provides a detailed and complete analysis, with data, that the combination of elements as described by the Examiner does not work. Appellant respectfully submits that the Examiner has failed to give the affidavit proper consideration.

In summary, the prior art does not meet the four elements required for a finding of obviousness according to rationale (A), and as such, Appellant respectfully submits that a *prima facie* case of obviousness under 35 U.S.C. § 103(a) for independent claims 1 and 29, and all claims depending thereon, has not been shown.

VIII. CLAIMS

A copy of the claims involved in the present appeal is attached hereto as Appendix A. As indicated above, the claims in Appendix A include all the amendments filed by Appellant.

IX. EVIDENCE

The evidence involved in the present appeal is listed in attached Appendix B.

X. RELATED PROCEEDINGS

The related proceedings involved in the present appeal are listed in attached Appendix C.

The Director is hereby authorized to charge any deficiency in the fees filed, asserted to be filed or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to our Deposit Account No. 07-1180.

Dated: 04/30/2010

Respectfully submitted,

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APPENDIX A

1. An apparatus for identifying a position of marked objects having unknown positions and detecting a property of the marked objects contained in a specimen, wherein the marked objects are marked with a fluorescent stain, the apparatus comprising

a frame,

a member positioned on the frame and having a surface that is adapted to receive and hold the specimen,

at least a first light source for emitting at least a first light beam towards the specimen held by the member, wherein the first light beam is adapted to provide a light spot having a diameter between 20-150μm on the specimen,

at least a detector for detecting fluorescent light emitted from the marked objects upon interaction with the first light beam, the first light source and the detector being arranged so that a part of a light beam path from the first light source to the specimen is co-axial with a part of the light emitted from the marked objects,

at least one beam-splitter being arranged to reflect the first light beam towards the specimen and filter light emitted from the specimen, thereby allowing fluorescent light from the marked objects to pass through the beam-splitter to the detector,

scanning means for scanning the entire surface of the member in relation to the detector along a non-linear curve, wherein the scanning means comprises means for rotating the member and means for displacing the member along a radius of the rotation of the member, so as to identify the position of the marked objects in the entire specimen and detect the property of the marked objects, the means for rotating and the means for displacing being directly connected to

the member, the member being rotatable and displaceable along a radius of the rotation of the member,

scanning control means for controlling the scanning means for scanning the specimen along the non-linear curve,

storage means for storing detector signals relating to the marked objects provided by the detector and corresponding position signals provided by the scanning control means,

means for retrieving the position signals stored in the storage means, and

a microscope for viewing images of the marked objects,

wherein the scanning control means use the retrieved position signals to place the microscope at the position of the marked objects to allow performing a detailed examination of the marked objects.

7. An apparatus according to claim 1, wherein the member is positioned for rotation about an axis on the frame and wherein the means for rotating the member rotates the member about the axis.

9. An apparatus according to claim 1, wherein the scanning control means are adapted to control the scanning means in such a way that the non-linear curve is a substantially circular curve.

11. An apparatus according to claim 1, further comprising means for sampling and digitising the detector signals and the position signals.

12. An apparatus according to claim 1, further comprising signal processing means operatively connected to the detector to detect a presence of an object based on the detector signals.

15. An apparatus according to claim 1, wherein the specimen has an area larger than 500 mm^2.

16. An apparatus according to claim 1, wherein the specimen has an area larger than 8000 mm^2.

23. An apparatus according to claim 1, wherein a mask is inserted in an optical path between the specimen and the detector, and the mask comprises at least one transparent aperture.

24. An apparatus according to claim 23, wherein the aperture shape is a substantially rectangular shape.

27. An apparatus according to claim 1, wherein the first light source is a coherent light source.

29. A method of identifying a position of a fluorescently marked object having an unknown position and detecting a property of the object contained in a specimen, wherein the object is a biological cell or a microorganism, the method comprising the steps of

positioning the specimen on a member having a surface that is adapted to receive and hold the specimen,

emitting at least a first light beam from a first light source towards the specimen held by the member, wherein the first light beam is adapted to provide a light spot having a diameter between 20-150μm on the specimen, and wherein the first light beam is reflected by a beam-splitter towards the specimen,

scanning the entire surface of the member in relation to a detector along a non-linear curve by rotating the member holding the specimen and displacing the member along a radius of the rotation of the member, the member being rotatable and displaceable along a radius of the rotation of the member,

arranging the light source and the detector, so that a part of a light beam path from the first light source to the specimen is co-axial with a part of a light emitted from the object,

filtering through said beam-splitter light emitted from the specimen, passing fluorescent light from the marked objects through the beam-splitter towards the detector,

detecting the fluorescent light emitted from the object, thereby identifying the position of the object and detecting the property of the object during scanning of the entire specimen,

storing detector signals relating to the object provided by the detector and corresponding position signals provided by the scanning control means,

retrieving the position signals stored in the storage means,

placing a microscope at the position of the object using the retrieved the position signals to allow performing a detailed examination of the object, and

optically inspecting the object by viewing an image of the object via the microscope by a user.

36. A method according to claim 29, further comprising the step of storing signals relating to the detected property and corresponding data relating to the current position of the member.

37. A method according to claim 36, further comprising the step of sampling and digitising the signals and the data.

44. An apparatus according to claim 1, wherein the detector comprises a CCD device.

47. A method according to claim 29, further comprising establishing identity of the object by viewing the image of the object.

48. An apparatus according to claim 1, wherein the position signals of the marked objects are angular and radial coordinates.

49. A method according to claim 29, wherein the step of storing the corresponding position signals includes storing angular and radial coordinates of the object provided by the scanning control means.

50. A method according to claim 29, wherein the specimen has an area larger than 500 mm^2.

51. A method according to claim 29, wherein the specimen has an area larger than 8000 mm^2.